**Name \_\_\_\_\_\_Aaron Spires\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Creating and Solving Systems of Equations**

Choose five questions from *9/27 homework* attachment on Moodle to demonstrate your understanding of systems of equations. Numbers 28 and 29 are considered one problem and MUST BE ANSWERED as one of your choices. Use the Flow Chart template to show the steps to solve and to provide an explicit description of EVERY step.

***Flow Chart***

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| **Problem: #19 (Elimination)** | |
| **Steps** | **Description** |
| **Make 3y the opposite of 6y** | **Multiply the equation 8x+3y=-5 by -2 which would make it –16x-6y=10 (You must have one variable be able to cross each other out and have the equation still accurate)** |
| **Eliminate the y variables** | **Cross out -6y and cross out 6y from both equations leaving you with -16x=10 and 10x=-13 (So the equation(s) is more simplified and to have only x variables equal.)** |
| **Combine the two equations** | **Add the two equations together by adding -16x with 10x and add -13 with 10 leaving you with -6x=-3 ()** |
| **Solve for x** | **Divide -6 on both sides leaving you with x=3/6 which simplifies two x=1/2** |
| **Plug in x=1/2 into one of the equations (8x+3y=-5)** | **Replace x with ½ giving you 8(1/2)+3y=-5 which reduces down to 4+3y=-5** |
| **Solve for y** | **Subtract 4 on both sides giving you 3y=-9 then divide 3 on both sides leaving you with y=-3** |
| **Put your results in a coordinate point form** | **x=1/2 and y=-3 x comes before y so therefore you would have your coordinate as (1/2,-3)** |

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| **Steps** | **Description** |
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| **CED.2** | ℗A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales**.** |
| **4** | Can consistently and thoroughly   * Create equations with two or more variables   With no errors |
| **3** | Can usually   * Create equations with two or more variables   With minor errors |
| **2** | Can inconsistently   * Create equations with two or more variables   Or requires some assistance |
| **1** | Can minimally   * Create equations with two or more variables   Or requires considerable assistance |
| **REI.11** | ℗A.REI.11 Explain why the *x*-coordinates of the points where the graphs of the equations *y* = *f*(*x*) and *y* = *g*(*x*) intersect are the solutions of the equation *f*(*x*) = *g*(*x*); find the solutions approximately. |
| **4** | Can consistently and thoroughly   * Approximate solutions to a systems of equations * Explain why the x value of this intersection is the solution of f(x) = g(x)   With no errors |
| **3** | Can usually   * Approximate solutions to a systems of equations * Explain why the x value of this intersection is the solution of f(x) = g(x)   With minor errors |
| **2** | Can accurately and usually   * Approximate solutions to a systems of equations * Explain why the x value of this intersection is the solution of f(x) = g(x)   Or requires some assistance |
| **1** | Can minimally   * Approximate solutions to a systems of equations * Explain why the x value of this intersection is the solution of f(x) = g(x)   Or requires considerable assistance |

**Rubric Used to Grade**